

U.S.C. §103(a) as unpatentable over Kitamura in view of Umeda '965 and further in view of Electric Machinery Transformers, 2nd Edition to Guru et al. (hereinafter "Guru"). The rejections are respectfully traversed.

The Office Action asserts that Kitamura discloses that the number of the slots is larger than the product of the number of the magnetic poles of the magnetic poles and the number of the phases of the stator, as previously claimed in claim 5, and currently claimed in claim 1. This assertion is respectfully traversed.

Specifically, Kitamura is completely devoid of any such disclosure. In fact, the Office Action does not cite any specific disclosure of Kitamura that would provide this claimed feature.

Further, none of the rest of the applied art can be combined with Kitamura to make up for this deficiency. For example, the Examiner may argue that Umeda '965 discloses that the number of the slots is larger than the product of the number of the magnetic poles and the number of the phases of the stator. However, it would not have been obvious to one of ordinary skill in the art to combine this feature with Kitamura because Kitamura does not disclose that the extra-many-slot structure increases the contact area of the n-slot portions of the conductor segment with the slots' inner wall so that the heat dissipation of the conductor segments can be enhanced more.


For at least these reasons, it is respectfully submitted that claim 1 is distinguishable over the applied art. Claims 2-4 and 6-7, which depend from claim 1, are likewise distinguishable over the applied art for at least the reasons discussed as well as for the additional features they recite. Withdrawal of the rejections under 35 U.S.C. §103(a) is respectfully requested.

III. CONCLUSION

For at least the reasons discussed above, it is respectfully submitted that this application is in condition for allowance.

Should the Examiner believe that anything further is desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the Applicants' undersigned representative at the telephone number listed below.

Respectfully submitted,



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JAO:HNS/cfr

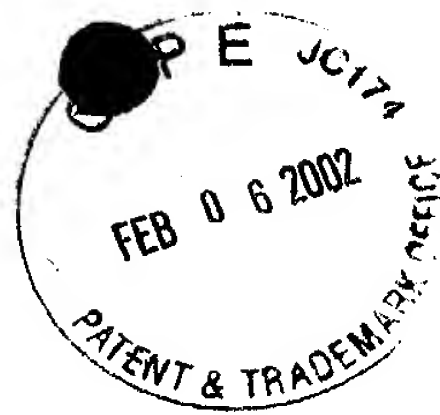
Attachments:

Appendix
Petition for Extension of Time

Date: February 6, 2002

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DEPOSIT ACCOUNT USE AUTHORIZATION Please grant any extension necessary for entry; Charge any fee due to our Deposit Account No. 15-0461



APPENDIX

Changes to Specification:

Page 10, lines 4-11:

Field coil 31 is fitted to an annular groove that is formed in the outer periphery of stationary yoke 72 to open radially outward. Stationary yoke 72 is closely fixed to the rear end of frame 4 at the front surface thereof. The magnetic fluxes flow from field coil 331, through stationary yoke 72, radially inner portion of pole core 7, a half of all claw poles 73 of pole cores 7, stator core 32 of stator 2, the other half of claw poles 73, and stationary core 72, back to field coil 331.

Page 16 lines 12-20:

The number (n) of slots is more than three (corresponding to the number (m) of phases of the stator) times as many as the number (p) of the magnetic poles. For example, not 96 slots (that is three times as many as 32 poles) but 192 slots are provided for a 32-pole-three-phase generator; or 144 slots are provided for a 24-pole-three-phase generator. Otherwise stated, the number (n) of the slots is equal to or larger than twice as many as the product of the number (p) of the magnetic poles and the number (m) of the phases of the stator that is, $n \geq 2 p \times m$. The extra-many-slot structure increases the contact area of the in-slot portions of conductor segments 33 with the slot inner walls via insulators, so that the heat dissipation of conductor segments can be more improved.

Page 23, line 1:

ABSTRACTABSTRACT

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Changes to Claims:

Claim 5 is canceled.

The following is a marked-up version of the amended claim:

1. (Amended) A liquid-cooled vehicle rotary electric machine operable in a motor mode or a generator mode comprising:
 - a frame having an inner periphery and a liquid passage;
 - a stator core having an outer periphery fixedly fitted to said inner periphery of said frame and a plurality of slots;
 - a multi-phase stator winding accommodated in said plurality of slots;
 - a rotor rotatably supported by said frame and disposed inside said stator core so as to electro-magnetically connect said stator core; wherein
 - said stator winding comprises a plurality of insulated U-shaped conductor segments each of which has a pair of legs, and
 - each of said legs is inserted in a slot from one end of said stator core and connected to be paired to another at a portion extending from the other end of said stator,wherein:
 - said rotor has plurality (P) of different magnetic poles alternately disposed at prescribed intervals in the circumferential direction thereof,
 - said plurality of slots is disposed in said stator to increase contact area of said U-shaped conductor segments with slot inner walls, and
 - the number (n) of said slots is equal to or larger than two times as many as the product of the number (p) of said magnetic poles and the number (m) of the phase of said stator, that is: $n \geq 2 p \times m$.